

## A Key to the Genera of Drosophilidae of the Pacific Islands (Diptera)

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The descriptions of the 24 genera of Drosophilidae reported from the Pacific area are widely scattered and no recent attempt has been made to include them all in a single key. The present account has been drawn up largely from published descriptions and some characters may have been stressed that are not reliable in actual practice. As several of the genera have but one species, it is also likely that some of the characters used are specific rather than generic and, consequently, some of the names included here may be synonyms of older genera. In many instances sufficiently clear-cut characters are not given in the literature and I have been unable to devise adequate contrasting couplets; in such cases a short summary of the known generic characters is given, the alternative being only the stock phrase: "Not entirely as above."

The writer has been fortunate in having access to the extensive collection of Drosophilidae of Dr. A. H. Sturtevant, Pasadena, Calif., as well as to his notes on the types of a number of Pacific species. Several of the island records are from specimens in his collection.

### Key to Genera

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|--|---|
| 1. Mesonotum with 3-4 pairs of strong dorsocentrals, at least one of them presutural .....   | 2 |
| Mesonotum with 1-2 pairs of dorsocentrals, all postsutural .....   | 7 |
| 2. Acrostichal hairs in 6 or more rows .....   | 3 |
| Acrostichals in 2-4 rows .....   | 5 |
| 3. Four pairs of dorsocentrals; lower margin of gena quite densely haired; size up to 6.5 mm. .... (Marquesas)   | 4 |
| Only 3 pairs of dorsocentrals .....  | 4 |
| 4. Lower angle of face with a conspicuous row of strong black bristles curved inwards in front of face; face not carinate; costal index about 3.5; posterior crossvein strongly inclined basally ..... | 6 |
| ..... (Hawaii) <i>Hypenomyia</i> Grimshaw  |   |
| Not entirely as above .....  | 6 |
| ..... (part; all regions) <i>Drosophila</i>  |   |
| 5. Eyes oblique, much longer than wide; arista with one dorsal and one ventral ray basal to terminal fork .....  | 6 |
| ..... (Marquesas) <i>Rosenwaldia</i> Malloch   |   |
| Eyes normal; arista with numerous dorsal rays and several ventral ones .....   | 6 |
| 6. With 4-5 pairs of dorsocentrals, 1-2 of them presutural; fore femora with a comb of short, stout spines on inner apical $\frac{1}{3}$ or more .....   | 8 |
| ..... (Guam; Admiralty) <i>Chaetodrosophilella</i> Duda  |   |
| With 3 pairs of dorsocentrals, anterior pair at or close to the suture; no femoral comb .....  | 8 |
| ..... (Samoa) <i>Samoaia</i> Malloch   |   |
| 7. Arista furcate, the two branches about equal in length, the lower branch sometimes with a short preapical hair on upper side .....  | 8 |
| ..... (Marquesas) <i>Dicladochaeta</i> Malloch   |   |
| Arista plumose, pectinate or pubescent .....   | 8 |

8. Arista pubescent; prescutellars strong..... 9  
Arista plumose or pectinate; prescutellars present or not..... 10
9. Mesonotum reddish-brown, without spots; costal index near 5.0; wings with dark pattern of spots on veins and in cells..... (Hawaii) *Pseudiasata* Coquillett  
Mesonotum with spotted pattern; costal index near 2.5; wings without complex pattern..... (Hawaii; Australia) *Gitonides* Knab (?=*Cacoxenus* Loew)
10. Arista short pectinate dorsally, without ventral branches; pale bluish-gray pruinose species with enlarged bristles..... (Hawaii) *Titanochaeta* Knab  
Arista distinctly plumose..... 11
11. Entire frons highly polished or with a large glossy central triangle extending to anterior margin and only narrowly separated from the equally shining orbits; more or less metallic colored species..... 12  
Not as above, the frons usually only slightly shining or dull, the triangle usually small; if metallic colored in part, then the front is not highly shining 13
12. Entire frons highly polished; fore femur without a comb of small spines on inner surface..... (Samoa) *Lissocephala* Malloch  
The shining frons and orbits separated by a narrow dull line on each side of triangle; fore femur with a comb on inner apical half or more..... (Australia; ? Samoa) *Liodrosophila* Duda
13. Acrostichal hairs in 6 or more rows..... 14  
Acrostichals in 2-4 rows..... 23
14. An extra crossvein present between 3rd and 4th veins near usual posterior crossvein; size up to 7.0 mm..... (Hawaii) *Idiomyia* Grimshaw  
Extra crossvein not present as described; size smaller..... 15
15. Acrostichals in 10 or more rows, often irregular; prescutellars strong..... 16  
Acrostichals in 6-8 rows; no prescutellars or the hairs in this position only slightly enlarged..... 17
16. Costa reaching 3rd vein or slightly beyond; face flattened, not noticeably carinate; anterior reclinate orbital close to proclinate and closer to eye margin than the latter; 3rd costal section usually with small thorn-like warts on under side..... (Australia; Fiji; Guam; New Zealand; Solomon) *Leucophenga* Mik  
Costa reaching 4th vein; face somewhat carinate; anterior reclinate orbital well behind proclinate and usually in line with it and posterior reclinate; 3rd costal section without warts..... (Australia) *Amiota* Loew
17. Anterior reclinate orbitals large, placed well anterior to the proclimates; postverticals small or minute; inner surface of fore femur of male with row of stout spines; often with fore femora, tibiae and metatarsi dark, the other legs and fore tarsi pale..... (Hawaii) *Chymomyza* Czerny  
Not entirely as above; anterior reclinate orbital usually smaller than other two or placed to the side of or behind proclinate or both; postverticals usually developed..... 18
18. Distal costal incision exceptionally deep, the lobe thus formed prominent and black, usually protruding beyond margin..... 19  
Costal incision normal, the lobe sometimes dark but not protruding beyond wing margin..... 20
19. All three orbitals large and of about equal size; hind tibia with a distinct bristle about  $\frac{1}{3}$  from base on postero-dorsal surface; two pairs of subequal dorso-centrals; mostly pale yellowish species with darker markings..... (Samoa) *Upolomyia* Malloch  
Anterior reclinate orbital usually much smaller than other two; hind tibia without described bristly hair; often with only one pair of dorsocentrals; usually dark species or dark above and contrastingly pale below..... (Australia; Marquesas; Samoa; Society) *Mycodrosophila* Oldenberg
20. Proboscis heavily chitinated, stout, straight and downwardly projecting, the apical section often as long as head height; central frontal triangle often distinct, large and subshining; oral margin indented medianly, the cheeks extended forward on either side; orbitals often in nearly a straight row and about equally separated at bases..... (Samoa) *Zygothrica* Wiedemann  
Not entirely as above; rarely with any of the above characters, never with all of them..... 21

21. Anterior dorsocentrals close to suture; basal scutellars half length apical ones; front twice as wide as long; anterior reclinate orbital microscopic; a single long, stout vibrissal pair; 3rd antennal segment densely pubescent.....  
 ..... (Samoa; Guam) **Hopkinsomyia** Malloch  
 (Almost certainly identical with *Microdrosophila* Malloch; Dr. Sturtevant has identified *M. congesta* from Guam.)  
 Not entirely as above..... 22
22. Lower angle of face with a conspicuous row of strong black bristles curved inwards in front of face; two strong dorsocentral pairs and 1-2 smaller bristles anterior to them; face not noticeably carinate; costal index about 3.5; posterior crossvein strongly inclined basally..... (Hawaii) **Hypenomyia** Grimshaw  
 Not entirely as above..... (all regions) **Drosophila** Fallén
23. Anterior dorsocentrals strong, at or close to suture; wings with three dark brown spots in marginal cell; crossveins clouded; arista with about 4 strong dorsal branches, none distinctly present below; genotype with extra veins in the dark spots between costa and 2nd vein; size about 1.5 mm.....  
 ..... (Hawaii) **Tantalia** Malloch  
 Not entirely as above..... 24
24. Distal costal incision exceptionally deep, the lobe thus formed protruding beyond wing margin and blackened; costal index near 1.0, the 2nd vein often bending rather abruptly to costa; anterior dorsocentrals close to suture; wings sometimes with complex pattern; arista usually with several dorsal and ventral branches; size up to 2.0 mm..... (Australia; Hawaii) **Dettopsomyia** Lamb  
 Not entirely as above..... 25
25. Face evenly and rather prominently convex below on its entire width, sloping gradually to epistome..... (Marquesas) **Bunostoma** Malloch  
 Face varying from almost flat to distinctly carinate, the carina separated from epistome by a distinct depression.....  
 ..... (Australia; Hawaii; Marquesas; Samoa) **Scaptomyza** Hardy

**Alternate couplet 25:** The above couplet 25 is the separation used by Malloch. In order to include an undescribed Hawaiian species in *Bunostoma*, where it seems to belong, the facial character must be considered as specific for *Bunostoma flavifacies* Malloch, the only included species.

The two genera would then be separable as follows:

- 25a. Anterior dorsocentrals placed close to suture; occiput somewhat pruinose when viewed from in front and above; arista with 2-3 ventral branches; proboscis slender and noticeably elongate; ocellar triangle distinct, shining, extending rather far anteriorly..... (Hawaii; Marquesas) **Bunostoma** Malloch  
 Anterior dorsocentrals (excluding any extra ones which may be present) well behind suture, usually closer to posterior pair than to each other; occiput not pruinose; arista with 1-2 lower branches; proboscis not noticeably elongate; usually rather long, slender species.....  
 ..... (Australia; Hawaii; Marquesas; Samoa) **Scaptomyza** Hardy